CGAR Project
Taxiway Deviation Study

This CEGAR study conducted by UAA/ATD represents a cooperative agreement between the University of Alaska, Anchorage, Aviation Technology, The Ted Stevens Anchorage International Airport Authority, The State of Alaska Department of Transportation and Public Facilities and the FAA Technical Center and is designed to be a mutually beneficial effort.

Purpose: Taxiway centerline deviation study to research the existing airport design and taxiway networks. The results of the study are to be used in future airport design criteria. The information will be used to determine the frequency and amount of deviation from centerline of numerous aircraft designs in all types of surface and weather conditions.

The Study: Using equipment provided by the FAA and installed at Anchorage International Airport, students from the University of Alaska Aviation Technology Division have gathered thousands of data points to evaluate the frequency and degree of aircraft deviations from centerline that could present a collision hazard on existing airfields. This information will be used in future airport design criteria to ensure aircraft are sufficiently separated on runways and taxiways to minimize conflict and potential collisions.

The scope of work: The work performed by students under the supervision of UAA/ATD faculty included the following:

The centerline deviations were measured by a set of 4 lasers placed at the Ted Stevens Anchorage International Airport. These lasers measured aircraft location and speed on taxiways ROMEO and KILO and stored the information on a computer at the study site for download later. To receive consistent and useful data the laser alignment was checked weekly and sometimes daily during periods of heavy soil mechanics brought on by freezing and thawing of the soil under the laser stations.

The data gathered by the lasers and stored on computers at the study site was down loaded on a bi-weekly basis for transmittal and storage on disc. There was data reduction following the download and the data was then a transfer of the data to other study personnel.

Study period: The UAA/ATD initiated the Study in September 2001 with the final data points to be collected in September 2002.

Presentation of Study: The presentation on this study will be made at the October 2002 COE meeting. The presenter will be Mr. Larry Hawkins who was and is a student at UAA/ATD. Mr. Hawkins will share his journal of activities and project photos with a COE Power Point presentation.

Principle Investigator:

Leonard F. Kirk / Assistant Director
University of Alaska Anchorage Aviation Technology Division
2811 Merrill Field Drive
Anchorage, Alaska 99501